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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/616,486
Filing Date: July 08, 2003
Appellant(s): QUATSE ET AL.

Joseph T. Helmsen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/16/2007 appealing from the Office action mailed 11/16/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20030208754	SRIDHAR ET AL	11-03
6,684,195	DEATON ET AL	01-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 7-12, 18 and 20-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Sridhar et al (US 2003/0208754).

As per claim 23, Sridhar teaches:

In an electronic system for distributing promotional offers, a method of targeting a plurality of customers from a customer database for distribution of limited quantities of promotional offers from a plurality of promotional offers in accordance with one or more constraints on the quantity of promotional offers to be distributed and/or on the selection of the customers to whom promotional offers are to be distributed, the method, comprising:

generating a plurality of scores for said plurality of customers, each said score being associated with one said customer and with one said offer, and each said score

measuring a probability that the associated customer will make a purchase in accordance with the associated offer (see paragraph 116 "purchase prediction: The probability that a subscriber will purchase a particular product in a particular week is referred a purchase prediction" i.e. customer-offer score);

identifying the highest score in said plurality of scores and identifying the customers substantially scoring said highest score (see paragraph 169 "select the ad of the product with largest purchase prediction for this subscriber from the products associated with the selected event");

targeting customers of said plurality with personalized offer lists, wherein each said identified customer's personalized offer list is generated in said electronic system by assigning to the personalized list for each said identified customer the offers associated with said highest score which satisfy said one or more constraints (see paragraph 175 "sponsor impose a restriction on number of such offers") and successively repeating said identifying and assigning steps for the next highest successive score (see paragraph 106, 156 169-170, "select product with next largest purchase prediction from product list of the current event and repeat step 19 to 27 until all products in the list are covered" see paragraph 191). Sridhar objective is to draw a customer's attention to a product which has the largest purchase prediction for said customer (see paragraph 156) and selects an ad from a set of ads pre-selected for said customer (see paragraph 106) where said ads are delivered to said customer in a sequence (i.e. from highest to lowest purchase prediction probability) from the products associated with a selected event (see paragraph 169-170) and where sponsors of said

ads impose a restriction or constraint on the number of such offers (see paragraph 175). Therefore, Sridhar teaches a customer-based system as defined by Applicant's specification in page 7, lines 10-15 where products' offers are selected for each customer and where said offers are presented to said customer in a sequence based upon said offers' purchase prediction or score (i.e. probability that an offer would be accepted by a customer), similar to the Applicant's claimed invention.

As per claim 24, Sridhar teaches:

The method of claim 23, wherein said promotional offers relate to a plurality of products organized in taxonomic groupings, and the method further comprises:

basing the scores associated with one or more of said offers on the grouping probability that a customer will purchase any product in a given taxonomic grouping (see paragraph 133).

As per claim 25, Sridhar teaches:

The method of claim 24 wherein a score is based on said grouping probability and the offer associated with said score is for a product included in said given taxonomic grouping (see paragraph 133).

As per claim 26, Sridhar teaches:

The method of claim 24 wherein a score is based on said grouping probability and the offer associated with said score is for a product not included in said given taxonomic grouping (see figure 4C).

As per claim 27, Sridhar teaches:

The method of claim 23 wherein said one or more constraints include a limit on the number of offers delivered to any individual customer and said method further comprises: performing said assigning step for each said identified customer only a number of times equal to said limit (see paragraph 68).

As per claim 7, Sridhar teaches:

The method of claim 23, wherein said promotional offers relate to a plurality of products organized in taxonomic product grouping, and the method further comprises:

providing a product grouping probability profile associating with each said product grouping a measure of the probability that a customer will purchase a product from said product grouping (see paragraphs 213-229); and

deriving said score for each said combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer (see paragraphs 175-201).

As per claim 8, Sridhar teaches:

The method of claim 7, further comprising:

providing access to a transaction history database for at least a substantial portion of said plurality of customers, wherein the database associates with each customer of said substantial portion an identification of transactions engaged in by the customer and an identification of products previously purchased by the customer in each of the transactions (see paragraphs 71 and 134);

providing a transaction summary data structure associating with each said customer the total number of transactions the customer has engaged in and the

numbers of transactions including each said product grouping (see paragraphs 140-159);

averaging the product groupings per transaction from said transaction summary data structure for at least a portion of said customers (see paragraphs 140-159); and

deriving said measure of probability associated with each said product grouping from the averaged product groupings per transaction for the associated product grouping (see paragraphs 140-159).

As per claim 9, Sridhar teaches:

The method of claim 7, further comprising:

normalizing said product grouping probability profile for an individual customer to reflect a relative probability of said individual customer purchasing from a product grouping with respect to an average probability for a customer to purchase from said product grouping (see paragraphs 70, 140-160).

As per claim 10, Sridhar teaches:

The method of claim 7, further comprising:

applying preprogrammed targeting criteria embodying a marketing strategy to said product grouping probability profile to provide a profile of offer scores (see paragraph 160)

As per claim 11, Sridhar teaches:

The method of claim 10, wherein

said marketing strategy includes at least one targeting product grouping and a promoted product grouping linked to said at least one targeting product grouping; and

said promotional offers are distributed only to customers having a high probability of acceptance for said at least one targeting product grouping (see paragraphs 175-178).

As per claim 12, Sridhar teaches:

The method of claim 11, further comprising: providing a taxonomy of said product groupings; wherein said at least one targeting product grouping is defined in reference to said taxonomy (see paragraph 70, 133, figure 4C).

As per claim 18, Sridhar teaches:

In an electronic system for distributing promotional offers, a method of adjusting the distribution of limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers comprising:

providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer (see paragraphs 175-201),

presenting the measures of acceptance probabilities for an individual customer in a graphical display on said electronic system (see figures 1A, 7; 4D2; paragraphs 136-149),

wherein said graphical display includes a plurality of graphic elements, one said graphic element being associated with each said measure of acceptance probability provided for said individual customer at least for the highest ranking of said measures (see paragraph 116; 136-149; figures 1A, 7);

enabling adjustment of said measures of acceptance probability by movement of the associated graphic elements; and selecting a limited quantity of offers from said

plurality of offers for distribution to said individual customer, wherein said limited quantity of offers are selected substantially in descending order of said measures of acceptance probabilities as adjusted in said enabling step (see paragraphs 164-201; see figure 7; 136-149).

As per claim 20, Sridhar teaches:

A method of distributing limited quantities of promotional offers to a plurality of customers utilizing a transaction history database comprising an identification of transactions engaged in and an identification of products previously purchased by one or more customers, said method comprising:

deriving a historical purchase probability profile from said transaction history database for at least a portion of the customers in said database and for a plurality of product groupings in said database, said historical purchase probability profile providing for each individual customer and for each individual product grouping a measure of the probability that said individual customer will purchase a product from said individual product grouping (see paragraphs 64, 71, 116);

for each customer, applying a statistical model to said purchase probability profile for the customer to determine estimated probabilities that the customer will purchase one or more products from said product groupings (see paragraph 134-135);

selecting for distribution to each customer (see paragraphs 178, 212)

the offers associated with the highest estimated probability which satisfy one or more constraints (see paragraph 175);

wherein one or more constraints is a limitation on the quantity of promotional offers for a particular product that may be distributed in the aggregate to all customers (see paragraph 175; "sponsors may impose a restriction on number of such offers").

As per claim 21, Sridhar teaches:

The method of claim 20 wherein said statistical model is an empirical Bayesian statistical model (see paragraph 135).

As per claim 22, Sridhar teaches:

The method of claim 20 wherein one or more of said product groupings includes one and only one product (see paragraph 191).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al (US 2003/0208754) in view of Deaton et al (U.S. 6,684,195).

As per claim 13, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a MoveStock strategy. However, Deaton teaches a MoveStock strategy (see column 105, lines 63-67). Therefore, it would have been obvious to a person of ordinary

skill in the art at the time the application was made, to know that Sridhar would include a MoveStock marketing strategy, as taught by Deaton. It would important to Sridhar to include arbitrary grouping of products, such as hot cereals, because if a single product in the grouping of products is set up as a criteria and someone is infrequent to that criteria, a manufacturer might believe the customer is not buying hot cereals and would incorrectly target the customer with hot cereals' promotions.

As per claim 14, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes an UpSell strategy. However, Deaton teaches an UpSell marketing strategy (see column 90, lines 60-67; column 86). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include an UpSell marketing strategy, as taught by Deaton. Including this feature in Sridhar would induce customers to expend more, as the customers that expend more money would receive the better offers.

As per claim 15, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a CrossSell strategy. However, Deaton teaches a CrossSell strategy (see column 106, lines 11-40; column 109, lines 25-45; column 105). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a CrossSell marketing strategy, as taught by Deaton. Sridhar would use the customers' purchase history to determine the promotions' offers that would induce customers to purchase the promoted products.

As per claim 16, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a Reward strategy. However, Deaton teaches a reward marketing strategy (see column 74, lines 19-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a Reward marketing strategy, as taught by Deaton. This feature would reward customers that purchase the promoted products.

As per claim 17, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a BrandChange strategy. However, Deaton teaches a BrandChange marketing strategy (see column 103, lines 10-16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a BrandChange marketing strategy, as taught by Deaton. This feature would target customers with incentives to change products' brands.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al (US 2003/0208754).

As per claim 19, Sridhar teaches:

The method of claim 18, but fails to teach wherein said graphical display comprises a bar chart, said graphic elements comprise individual bars of said bar chart, and said movement comprises dragging said bars to lengthen and shorten them and thereby increase and decrease the associated measure of acceptance probability. However, Official Notice is taken that it is old and well known in the computer art to use

software programs to create bar charts from input data and adjust said bar charts according to a user preference. It would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that if Sridhar sorts the offers acceptance probability in order to determine the products with the largest purchase predictions, Sridhar would also present all the purchase prediction products in a graphic bar chart. The user would be able to adjust the graphic bar chart in the user's computer and would be able to select the products' offers based upon said adjustment.

(10) Response to Argument

The Appellant argues in page 13 of the Brief that Appellant's claimed invention is directed to identifying the best fit between a plurality of offers and a plurality of individuals but that Sridhar, according to the Appellant, is directed to individuals and predicting the likelihood that an individual will accept a single given offer. The Appellant further argues in page 15 of the Brief with respect to claim 23 that the Appellant's claimed system distributes an offer to the customer having the highest probability of purchasing the promoted product but Sridhar cannot determine which customer has the highest probability of purchasing a product because, according to the Appellant, the system in Sridhar analyzes offers for a single customer in isolation. The Appellant further argues in pages 15 and 16 of the Brief that Sridhar does not disclose "identifying the highest score in said plurality of scores and identifying the customer substantially scoring said highest score" because according to the Appellant, Sridhar is merely capable of populating one row of the score matrix depicted in Appellant's specification figure 3, whereas the Appellant's claimed invention is capable of populating the entire

matrix because it generates scores for a plurality of customers, rather than a single customer. The Examiner answers that Appellant's claim 23 recites "generating a plurality of scores for said plurality of customers, each said score being associated with one said customer and with one said offer and each said score measuring a probability that the associated customer will make a purchase in accordance with the associated offer; identifying the highest score in said plurality of scores and identifying the customer substantially scoring said highest score". Using Appellant's figure 3 to interpret said limitation, it can be seen in said Appellant's figure 3 table a plurality of scores and a plurality of customers, however, the limitation "identifying the highest score in said plurality of scores and identifying the customer substantially scoring said highest score" does not recite if said identifying said highest score is done by finding the highest score by customer or by offer. This is an important distinction because finding the highest score by customer (*i.e.* by row) would produce a different result that finding said highest score by offer (*i.e.* by column). For example, using Appellant's figure 3, if said identifying said highest score is performed by customer (*i.e.* by row), offer 4 would have the highest score for customer 4. However, if said identifying the highest score is performed by offer (*i.e.* by column), customer 1 would have the highest score for offer 4. Therefore, because said limitation does not recite if said identifying the highest score is done by customer or by offer, and because said identifying by customer or by offer would produce a different result, then, the Examiner would use Appellant's specification in order to interpret said limitation. Appellant's specification discloses that Appellant's claimed invention is a "Customer-Based" targeting which is obtained by selecting from

the same probability matrix of Figure 3 the two promotional offers of highest probability for each customer (see Appellant's specification page 14, lines 9-15). Therefore, using Appellant's specification, the Examiner would interpret that the Appellant's "identifying the highest score and identifying the customer substantially scoring the highest score" would be performed by each customer (*i.e.* by each row of Appellant's figure 3) and targeting each customer with a personalize offer list would be interpreted as selecting from the same probability matrix of Figure 3 the promotional offers of highest probability for each customer (see Appellant's specification page 9, lines 1-15; see figure 4). Sridhar teaches a system with a plurality of subscribers (see paragraphs 63, 105; "select next subscriber") and also teaches targeting each subscriber from a plurality of subscribers with a personalize offer list (see paragraph 106 "set of ads pre-selected for a subscriber"; paragraph 169). Sridhar also teaches selecting a plurality of offers for each subscriber, ranking said offers in order of probability of being accepted by said subscriber (*i.e.* offers associated with the highest score") and distributing said offers to each subscriber in order of said probability, where said offers would be distributed to each subscriber from the largest to the lowest purchase prediction probability (see paragraphs 169-175). Therefore, contrary to Appellant's argument, Sridhar would populate a table similar to Appellant's specification figure 3 because Sridhar teaches a plurality of subscribers (see paragraphs 63 and 105) and Sridhar also teaches ranking offers to distribute to each subscriber from the largest to the lowest purchase prediction probability, therefore, populating each row in a table similar to Appellant's figure 4, where each row would indicate the personalize offer list of each subscriber.

Furthermore, Sridhar also teaches "identifying the highest score in said plurality of scores and identifying the customer substantially scoring said highest score" as Appellant's claimed invention performed said identifying the highest score by each subscriber (*i.e.* by each row of Appellant's figure 3) and Sridhar also teaches selecting the promotional offers of highest probability for each subscriber (see Sridhar paragraph 169). Furthermore, contrary to Appellant's argument, Sridhar can determine which subscriber has the highest probability of purchasing a product because Sridhar calculates the purchase prediction of an offer for all the subscribers that participate in the Sridhar system (see paragraph 63, 169).

The Appellant argues that in pages 17 and 18 of the Brief with respect to claim 17 that Sridhar does not teach providing a product grouping probability profile that associates a probability that a customer will purchase a product from the product grouping with each product grouping because according to the Appellant, Sridhar teaches advertisement groupings that corresponds to the products to which the advertisements corresponds, but do not refer to product groupings as required by claim 7. Furthermore, the Appellant argues that Sridhar merely relates to the number of advertisements that may be sent in certain week and not to, according to the Appellant, the probability that a customer will purchase a product in a product grouping. The Examiner answers that Sridhar teaches in paragraphs 133-135 computing purchase prediction for product groups, where said purchase prediction is based on learning of the purchase pattern of a product from the historical data and where the association between purchase of two different products and the influence of co-purchased on a

product P are considered to determine the purchase prediction for product groups. Therefore, contrary to Appellant's argument, Sridhar teaches a product grouping probability profile and the probability that a customer will purchase a product in a product grouping.

The Appellant argues in page 19 of the Brief that Sridhar does not teach "providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer" because according to the Appellant, Sridhar describes determining a purchase prediction for an individual subscriber. The Examiner answers that Sridhar teaches a plurality of subscribers (see paragraphs 63, 105) and targeting promotions to each subscriber of said plurality of subscribers where said plurality of offers that are targeted to each subscriber from a plurality of subscribers (see paragraph 63 "various subscribers") are ranked by order of acceptance probability and where said offers are distributed to said subscriber from the largest to the smallest purchase prediction probability (see paragraphs 169-175). Therefore, contrary to Appellant's claimed invention, Sridhar teaches "providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer" because Sridhar calculates the purchase prediction of an offer for all the subscribers that participate in the Sridhar system (see paragraph 63, 169).

The Appellant argues in page 21 of the Brief with respect to claim 20 that the phrase "the highest estimated probability" has a different connotation in the claimed

methods that it does in Sridhar because according to the Appellant, Sridhar only determines a purchase prediction for an individual subscriber and this purchase prediction is selected independently of the purchase predictions of other subscribers. Therefore, the Appellant argues that the system of Sridhar may distribute advertisements to subscribers who do not have the highest probability of purchasing the product being promoted. The Examiner answers that the Appellant is arguing about limitation that are not stated in the claims. Claim 20 recites "selecting for distribution to each customer the offers associated with the highest estimated probability which satisfy one or more constraints, wherein one of the one or more constraints is a limitation on the quantity of promotional offers for a particular product that may be distributed in aggregate to all customers". Sridhar teaches selecting for distribution to each subscriber a plurality of offers contained in a list, where each offer in said list is ranked according to said subscriber's acceptance probability and where a restriction or constraint on the number of said offers distributed to each customer can be imposed by sponsors (see paragraphs 169-175). Furthermore, Sridhar teaches that each subscriber from a plurality of subscribers (see paragraph 63 "streaming schedule of various subscribers") would be targeted with their particular list of offers (see paragraph 105) and where said offers in said list would be transmitted in order from the largest to the lowest purchase prediction for said subscriber (see paragraph 169). Therefore, contrary to the Appellant's argument, Sridhar teaches the "the highest estimated probability" limitation and furthermore, Sridhar teaches targeting a plurality of offers to a plurality of subscribers.

The Appellant argues in page 23 of the Brief that neither Sridhar nor Deaton teaches "generating a plurality of scores for a plurality of customers, identifying the highest score in the plurality of scores for a plurality of customers, and providing the marketing information most likely to be accepted to each customer". The Examiner answers that Sridhar teaches a system where each subscriber from a plurality of subscribers (see paragraphs 63, 104-105) are targeted with a personalized offer list and where each offer in said list is ranked and distributed to said subscriber according to the order of acceptance probability for said subscriber (See paragraphs 165-172). Therefore, contrary to Appellant's argument, Sridhar teaches Appellant's claimed invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Conferees:

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PRIMARY EXAMINER